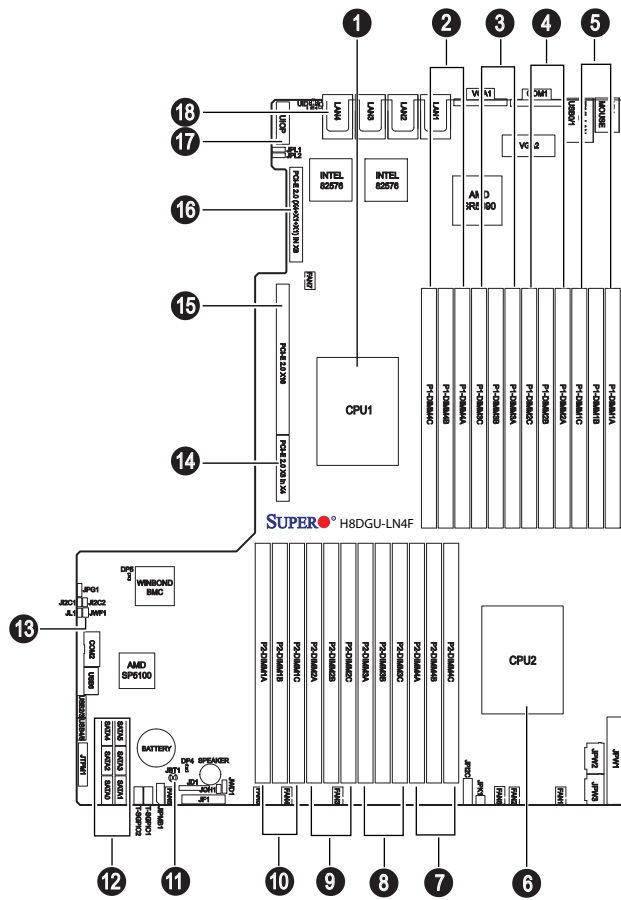


## Board Layout



| No. | Description                                |
|-----|--|
| 1   | CPU1                                       |
| 2   | P1-DIMM4A/P1-DIMM4B/P1-DIMM4C              |
| 3   | P1-DIMM3A/P1-DIMM3B/P1-DIMM3C              |
| 4   | P1-DIMM2A/P1-DIMM2B/P1-DIMM2C              |
| 5   | P1-DIMM1A/P1-DIMM1B/P1-DIMM1C              |
| 6   | CPU2                                       |
| 7   | P2-DIMM4A/P2-DIMM4B/P2-DIMM4C              |
| 8   | P2-DIMM3A/P2-DIMM3B/P2-DIMM3C              |
| 9   | P2-DIMM2A/P2-DIMM2B/P2-DIMM2C              |
| 10  | P2-DIMM1A/P2-DIMM1B/P2-DIMM1C              |
| 11  | JBT1 = CMOS Clear                          |
| 12  | SATA0/SATA1/SATA2/SATA3/SATA4/SATA5        |
| 13  | JWF1 = Compact Flash Card Power Connector  |
| 14  | PCI-E 2.0 x8 in x4                         |
| 15  | PCI-E 2.0 x16                              |
| 16  | PCI-E 2.0 (x4 + x1 + x1) in x8             |
| 17  | UIOP Universal I/O power connector         |
| 18  | LAN1/2/3/4 (Gigabit Ethernet (RJ45) Ports) |

## MEMORY

**Memory Population for Optimal Performance  
For a Motherboard with One CPU (CPU1) Installed**

| DIMM #   | Channel 1 | Channel 2         | Channel 3         | Channel 4         |
|----------|-----------|-------------------|-------------------|-------------------|
| 4 DIMMs  | P1-1A     | P1-2A             | P1-3A             | P1-4A             |
| 8 DIMMs  | P1-1A     | P1-1C P1-2A       | P1-2C P1-3A       | P1-3C P1-4A       |
| 12 DIMMs | P1-1A     | P1-1B P1-1C P1-2A | P1-2B P1-2C P1-3A | P1-3B P1-3C P1-4A |

**Memory Population for Optimal Performance  
For a Motherboard with Two CPUs (CPU1 & CPU2) Installed**

| CPU      | Channel 1 | Channel 2         | Channel 3         | Channel 4         |
|----------|-----------|-------------------|-------------------|-------------------|
| 8 DIMMs  |           |                   |                   |                   |
| CPU1     | P1-1A     | P1-2A             | P1-3A             | P1-4A             |
| CPU2     | P2-1A     | P2-2A             | P2-3A             | P2-4A             |
| 16 DIMMs |           |                   |                   |                   |
| CPU1     | P1-1A     | P1-1C P1-2A       | P1-2C P1-3A       | P1-3C P1-4A       |
| CPU2     | P2-1A     | P2-1C P2-2A       | P2-2C P2-3A       | P2-3C P2-4A       |
| 24 DIMMs |           |                   |                   |                   |
| CPU1     | P1-1A     | P1-1B P1-1C P1-2A | P1-2B P1-2C P1-3A | P1-3B P1-3C P1-4A |
| CPU2     | P2-1A     | P2-1B P2-1C P2-2A | P2-2B P2-2C P2-3A | P2-3B P2-3C P2-4A |

**Note:** Memory speed support is dependent on the type of CPU used on the board.

### DIMM Module Population Configuration

For memory to work properly, follow the tables below for memory installation:

**Per Channel DIMM Populations Options**

| DIMM Type       | DIMM A   | DIMM B | DIMM C | Max. MHz, 1.5V DIMMs | Max. MHz, 1.35V DIMMs | Max. GB/Channel |
|-----------------|----------|--------|--------|----------------------|-----------------------|-----------------|
| Unbuffered DIMM | SR or DR | Empty  | Empty  | 1600 MHz             | 1333 MHz              | 8 GB            |
|                 | SR       | Empty  | SR     | 1600 MHz             | 1333 MHz              | 8 GB            |
| Registered DIMM | DR       | Empty  | DR     | 1333 MHz             | 1333 MHz              | 16 GB           |
|                 | SR or DR | Empty  | Empty  | 1600 MHz             | 1333 MHz              | 16 GB           |
|                 | SR       | Empty  | SR     | 1333 MHz             | 1333 MHz              | 16 GB           |
|                 | DR       | Empty  | DR     | 1333 MHz             | 1333 MHz              | 32 GB           |
|                 | SR       | SR     | SR     | 1066 MHz             | 1066 MHz              | 12 GB           |
|                 | Empty    | QR     | Empty  | 1066 MHz             | 1066 MHz              | 32 GB           |
| LRDIMM          | DR       | DR     | DR     | 1066 MHz             | 800 MHz               | 48 GB           |
|                 | QR       | Empty  | Empty  |                      | 1333 MHz              | 32 GB           |
|                 | QR       | Empty  | QR     |                      | 1333 MHz              | 64 GB           |
|                 | QR       | QR     | QR     |                      | 800 MHz               | 96 GB           |

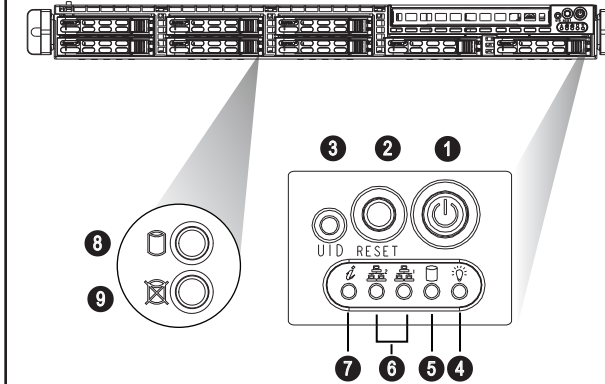
**Note 1:** Due to OS limitations, some operating systems may not show more than 4 GB of memory.

**Note 2:** Due to memory allocation to system devices, the amount of memory that remains available for operational use will be reduced when 4 GB of RAM is used. The reduction in memory availability is disproportional.

## Beep Codes

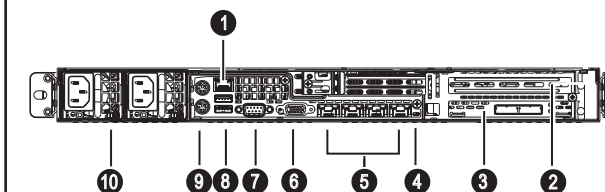
| BIOS Beep Codes              |             |   |
|------------------------------|-------------|---|
| Beep Code/LED                | Message     | Description                                   |
| 1 beep                       | Refresh     | Circuits have been reset. (Ready to power up) |
| 5 short beeps + 1 long beep  | Memory      | No memory detected                            |
| 5 long beeps + 8 short beeps | Video error | Video adapter disabled or missing             |
| 1 continuous beep            | System      | System overheat                               |

## Front View & Interface



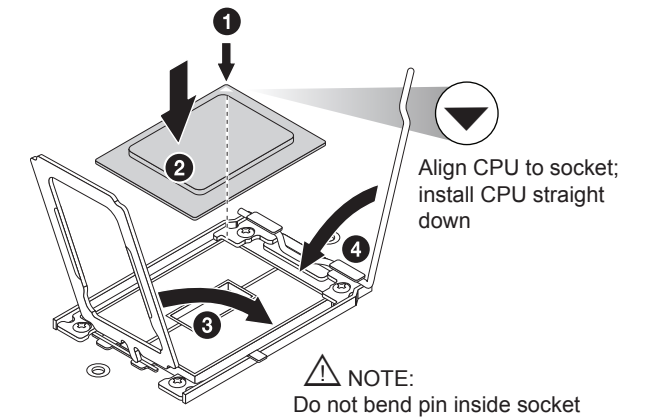
| No. | Description         |
|-----|---------------------|
| 1   | Power Button        |
| 2   | Reset Button        |
| 3   | UID Button          |
| 4   | Power LED           |
| 5   | Device Activity LED |
| 6   | LAN1 LED & LAN2 LED |
| 7   | Information LED     |
| 8   | Hard Drive Signal   |
| 9   | Hard Drive Fail     |

## Rear View

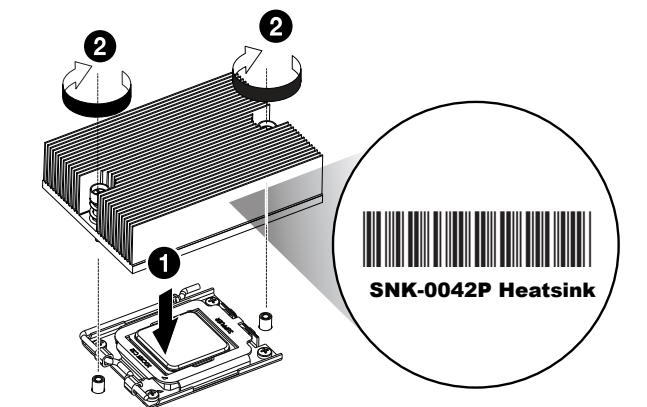


| No. | Description                              |
|-----|--|
| 1   | Dedicated LAN for IPMI                   |
| 2   | UIO Expansion Slot                       |
| 3   | PCI-E 2.0 x8 Expansion Slots (FH, 13.5L) |
| 4   | UID Button (Unit Identifier Button)      |
| 5   | LAN 1, LAN 2, LAN3, LAN4 Ports           |
| 6   | VGA Port                                 |
| 7   | COM Port                                 |
| 8   | USB Ports                                |
| 9   | PS2 Keyboard & Mouse Ports               |
| 10  | Redundant Power Supplies                 |

## CPU Installation



## Heatsink Installation



Attach the barcode label as illustrated

- Place heatsink on top of installed CPU
- Line up the two screws to socket
- Push down heatsink and screw down as shown
- NOTE:** Only use 6-8 lb/ft of torque; otherwise, hand-tighten each screw, to avoid damaging the system

## Caution

**SAFETY INFORMATION**  
IMPORTANT: See installation instructions and safety warning before connecting system to power supply.  
[http://www.supermicro.com/about/policies/safety\\_information.cfm](http://www.supermicro.com/about/policies/safety_information.cfm)

**WARNING:**  
To reduce risk of electric shock/damage to equipment, disconnect power from server by disconnecting all power cords from electrical outlets.  
If any CPU socket empty, install protective plastic CPU cap

**CAUTION:**  
Always be sure all power supplies for this system have the same power output. If mixed power supplies are installed, the system will not operate.

For more information go to :  
<http://www.supermicro.com/support>

